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a source for providing Koehler illumination to the back focal plane of the interference microscope objective lens; and

a detector positioned to record an optical image of the back focal plane of the objective lens.

3. Please amend claim 21 as follows:

21. A method of performing interference [spectroscopy] scatterometry comprising the steps of:

providing an interference microscope having an object path and a reference path and further having an objective lens with a corresponding back focal plan;

providing Koehler illumination to the back plane of the interference microscope objective lens; and

detecting an image of the back focal plane of the objective lens.